

bill of materials was drawn up and commercially available parts were priced and specified where feasible. Estimates for manufacturing costs were obtained.

[0105] Based on the model, the weight of a fully assembled hybrid shopping basket/vehicle of the embodiment of Figure 4 was estimated to be 24 to 36 ounces (0.68 to 1.02 kg), depending on materials and estimated product time to repair or replacement, accounting for spring weakening and other factors in wear and tear. This compares to shopping baskets in commercial use which typically weigh 17 to 20 ounces (0.48 to 0.57 kg). A substantial component of the weight is in the rigid handle and basket rim, which may bear loads approaching 150 pounds (68.04 kg) failsafe. Rehrig has described ways to reinforce the rim (US 4,865,338 and 4,946,059) of an injection-molded basket and lighter alternative handles, such as straps, are in use, particularly for example in Europe. In contrast, shopping carts in commercial use often weigh between 20 and 75 pounds (9.07 and 34.02 kg), impractical for lightweight carrying.

CLAIMS

I claim:

1. A hybrid shopping basket/vehicle comprising:
 - a) a shopping basket, said shopping basket further being generally lightweight for carrying, of a material selected from rigid or semi-rigid, and having rim, base, and walls not foldable or disassemblable;
 - b) a plurality of legs attached at pivots to said shopping basket, further pivoting between a legs-up configuration wherein said plurality of legs are triggerably cocked and secured generally parallel to said base when undeployed, and a legs-down configuration wherein said plurality of legs stand upright and lock when deployed;

- c) a means for releasably securing said plurality of legs generally apposed to the base of said shopping basket in a legs-up configuration;
 - d) a means for triggering release and deployment of said plurality of legs from said legs-up configuration to said legs-down configuration;
 - e) when freestanding in said legs-down configuration, inferiorly attached wheels for wheeling said shopping basket as a wheeled vehicle from place to place.
2. A hybrid shopping basket/vehicle of claim 1 wherein said plurality of legs are compound legs.
 3. A hybrid shopping basket/vehicle of claim 1 wherein said plurality of legs number an integer selected from two, three or four, and further where said plurality of legs are selected from straight leg, bent leg, "tee" leg, "ell" leg, "C" leg, "H" leg, "T" leg, "O" leg, "T" leg, inverted "T" leg, "Z" leg, compound legs, paired legs, or scissors legs, where compound legs describes a leg comprising any pivoted leg submembers that fold back on each other, where paired legs describes two or more legs crosslinked by at least one crosspiece disposed along their lengths, and scissors legs describes any two legs joined by a pivot intermediate upon their lengths.
 4. A hybrid shopping basket/vehicle of claim 3 wherein said legs are triggeringly deployed by use of a body member selected from hand, finger, thumb, arm, knee, or foot.
 5. A hybrid shopping basket/vehicle of claim 3 wherein pivoting of said legs in at least one direction selected from legs-up to legs-down or legs-down to legs-up is assisted by gravity.

6. A hybrid shopping basket/vehicle of claim 3 wherein said legs lock in the legs-down position by spring action.
7. A hybrid shopping basket/vehicle of claim 1 wherein said plurality of legs, releasably secured in the legs-up configuration, are triggeringly deployed from said legs-up configuration to said legs-down configuration while carrying said shopping basket.
8. A hybrid shopping basket/vehicle of claim 1 weighing less than 12 pounds (5.44 kg); more preferably less than 6 pounds (2.72 kg), and most preferably less than 3 pounds (1.36 kg).
9. A hybrid shopping basket/vehicle of claim 1 wherein said hybrid shopping basket/vehicle, freestanding on legs deployed and wheels contacting a generally level and firm underlying surface, is stably supported so that said base of said shopping basket is stably elevated and generally level at a height equal to at least 50% of the length of said base, more preferably 75% and most preferably 90% of the length of said base.
10. A hybrid shopping basket/vehicle of claim 1, further comprising a means for braking that acts on at least one said wheel.
11. A hybrid shopping basket/vehicle claim 1 wherein said shopping basket is injection molded of a plastic.
12. A hybrid shopping basket/vehicle of claim 11, wherein said shopping basket is injection molded with an integral undercarriage.

13. A hybrid shopping basket/vehicle of claim 12, wherein a handle is integrally molded with said shopping basket.
14. A hybrid shopping basket/vehicle of claim 1, further comprising an undercarriage to which said legs are attached.
15. A hybrid shopping basket/vehicle of claim 14, further comprising a means for detachably attaching said undercarriage from said shopping basket.
16. A hybrid shopping basket/vehicle of claim 15, wherein said shopping basket is provided separately.
17. A hybrid shopping basket/vehicle of claim 1 further comprising an informational data transceiver.
18. A hybrid shopping basket/vehicle of claim 1 further comprising a radio frequency tag reader.
19. A hybrid shopping basket/vehicle as recited in claim 2, further comprising a lower shelf, said lower shelf being attached at a lower aspect of said compound legs.
20. A hybrid shopping basket/wheeled vehicle comprising:
 - a) a shopping basket, said shopping basket further being generally lightweight for carrying, of a material selected from rigid or semi-rigid, and having walls not foldable and not disassemblable, rim, and base generally quadrilateral in shape, said base having ends, sides, center and corners;
 - b) four legs, said legs pivoting between a legs-up configuration wherein said legs are triggerably cocked and secured generally parallel to said base when

undeployed, and a legs-down configuration wherein said legs stand upright, elevatingly supporting said shopping basket;

- c) an undercarriage, integrally formed in said base, to which said legs are pivotally attached at said corners, further comprising two beams of generally rectangular cross-section, said beams spanning substantially from end to end of and generally parallel to the sides of said base, but inset from said sides by generally the cross-sectional thickness of one leg, each beam further having two slotted tracks extending symmetrically to the right and left of center for an intermediate length along said beams;
- d) a means for releasably securing said four legs in the legs-up configuration, said means for releasably securing consisting of a mechanical linkage formed of scissors tongs center mounted under said base, a sliding detent pin, a mated detent pin receiver on said scissors tongs, sliding flying crossplates captive in said slotted tracks and attached at either end by pins to said scissors tongs, offset pivot struts pivotingly attached to said flying crossplates at their lateral aspect and to said legs at a pivot positioned at a radius intermediate along the length of each leg from its pivot axis;
- e) a means for triggering release and deployment of said four legs from said legs-up configuration to said legs-down configuration, said means for triggering consisting of said mechanical linkage and a sliding control handle arm and control handle to operate said sliding detent pin;
- f) when freestanding with said legs deployed, inferiorly attached wheels for rolling said shopping basket as a wheeled vehicle from place to place.

- 21. A hybrid shopping basket/vehicle of claim 20 further comprising a lower shelf, said lower shelf being attached at a lower aspect of said four legs, said four legs

being compound legs, and said inferiorly attached wheels being appended to said lower shelf.

22. A hybrid shopping basket/vehicle of claim 20 further comprising at least one basket handle attached at the rim of said shopping basket.
23. A hybrid shopping basket/vehicle of claim 20, wherein said shopping basket is injection molded from a plastic.
24. A hybrid shopping basket/vehicle of claim 20 weighing less than 12 pounds (5.44 kg), more preferably less than 6 pounds (2.72 kg), and most preferably less than 3 pounds (1.36 kg).
25. A hybrid shopping basket/vehicle of claim 20 wherein said shopping basket/vehicle, freestanding on legs deployed and wheels contacting a generally level and firm underlying surface, is stably supported so that said base of said shopping basket is stably elevated and generally level at a height equal to at least 50% of the length of said base, more preferably 75% and most preferably 90% of the length of said base.
26. A specially adapted method for shopping comprising:
 - a) At times when carrying a hybrid shopping basket/vehicle of claim 1, a step for triggering deployment of said legs and inferiorly attached wheels, whereupon said shopping basket may be freestandingly rested on said legs and inferiorly attached wheels;
 - b) At times when said shopping basket is freestandingly rested on said legs and inferiorly attached wheels, a step for rolling said shopping basket as a wheeled vehicle from place to place.

27. A method of claim 26 further comprising returning said hybrid shopping basket/vehicle when not in use to a location at which a next shopper will pick up said hybrid shopping basket/vehicle; said legs having been brought up around said undercarriage, triggerably cocked and secured in a legs-up configuration in preparation for use by said next shopper.
28. A method of Claim 27 further comprising a step for nesting unused hybrid shopping basket/vehicles in a vertical stack.
29. A method of claim 26 wherein said hybrid shopping basket/vehicle is wheeled from place to place while freestandingly rested and stably elevated at a generally level and convenient height.
30. A hybrid shopping basket/vehicle comprising:
 - a) a shopping basket, said shopping basket further being generally lightweight for carrying, of a material selected from rigid or semi-rigid, and having walls not foldable and not disassemblable, with base generally quadrilateral in shape, said base having ends, sides, and corners;
 - b) four compound legs attached to said base generally at the corners, said legs pivoting between a legs-up configuration and a legs-down configuration;
 - c) a lower shelf, said lower shelf being attached at a lower aspect of said compound legs;
 - d) a means for releasably securing said lower shelf to the base of said shopping basket, thereby securing said compound legs in said legs-up configuration;

- e) wheels attached inferiorly to said lower shelf for wheeling said shopping basket as a wheeled vehicle from place to place.
- 31. A specially adapted method for shopping comprising use of a hybrid shopping basket/vehicle of claim 30.
- 32. A specially adapted method for shopping of claim 31 comprising:
 - a) At times when carrying a hybrid shopping basket/vehicle, a step for triggering deployment of said compound legs and wheels, whereupon said shopping basket may be freestandingly rested on said legs and wheels;
 - b) At times when said shopping basket is freestandingly rested on said legs and inferiorly attached wheels, a step for rolling said shopping basket as a wheeled vehicle from place to place.
- 33. A method for shopping as recited in claim 32, further comprising a step for placing goods on said lower shelf.
- 34. An article of manufacture comprising a hybrid shopping basket/vehicle of claim 30.
- 35. A business method comprising a business model further comprising keeping spreadsheet records of inventory and sales performance, and having at least one step selected from the list:
 - a) providing a customer with a hybrid shopping basket/vehicle of claim 1;
 - b) providing to a merchant by sale or lease a hybrid shopping basket/vehicle of claim 1;

- c) providing to a customer a kit for assembly of a hybrid shopping basket/vehicle of claim 1; or,
 - d) providing to a customer a part for repair of a hybrid shopping basket/vehicle of claim 1.
36. A business model comprising keeping spreadsheet records of inventory and sales performance, and having at least one step selected from the list consisting of:
- a) providing a customer with a hybrid shopping basket/vehicle of claim 30;
 - b) providing to a merchant by sale or lease a hybrid shopping basket/vehicle of claim 30;
 - c) providing to a customer a kit for assembly of a hybrid shopping basket/vehicle of claim 30; and,
 - d) providing to a customer a part for repair of a hybrid shopping basket/vehicle of claim 30.